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10/779,437	02/13/2004	Douglas M. Carson	OKC00086.1	8767

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EXAMINER
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HEYI, HENOK G

ART UNIT	PAPER NUMBER
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2627

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/779,437	<b>Applicant(s)</b> CARSON, DOUGLAS M.	
	<b>Examiner</b> HENOK G. HEYI	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 23-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/06/2008</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The indicated allowability of claims 8-15, 23-24 and 28-31 is withdrawn in view of the newly discovered reference(s) to be combined with the Lee reference previously cited.

Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 25 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Program is one of the judicial exceptions and does not fall within one of the four statutory categories.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 and 23-31 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Lee ET al. (US Pub. No.: 2003/0223344 A1) in view of Kawamura et al. US 6,424,614 B1 (Kawamura hereinafter).

Re claim 1, Lee discloses an apparatus comprising a stamper (a father stamper, para [0033] and see fig. 4C) configured to form pits and lands (land areas and pit areas protrude, [0032] to [0037]) in a non-first layer in a multi-layer optical disc, but Lee fails to disclose said pits and lands in the non-first layer defining non-first layer data including an identifier tag which identifies the first stamper as corresponding to a second stamper configured to form pits and lands in a first layer of the disc, said pits and lands in the first layer defining first layer data that are different from the non-first layer. However, Kawamura teaches TOC that contains important data defining the disk. For example, if both conventional single-layered disks and multi-layered disks are acceptable as standard disks, then the TOC00 contains ID for distinguishing whether a disk is single-layered or multi-layered (see col 4 lines 44-54).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the apparatus of Lee to make identifier tags inside the TOC on lands and pits of multiple layer discs. The modification would have been obvious because of the benefit of facilitating identification from multiple layers as taught by Kawamura (see col 4 lines 36-43).

Re claim 2, Kawamura discloses the apparatus of claim 1, wherein the first layer data comprise a table of contents (TOC) for said disc, and wherein the identifier tag comprises at least a portion of the TOC (system identification, see Fig 11).

Re claim 3, Kawamura discloses the apparatus of claim 2, wherein the identifier tag comprises a complete copy of the TOC (system identification, see Fig 11).

Re claim 4, Kawamura discloses the apparatus of claim 1, wherein the identifier tag comprises a reference value associated with the contents of the disc (version number, Fig. 11).

Re claim 5, Kawamura discloses the apparatus of claim 1, wherein the identifier tag is configured to facilitate identification of a revision level of the first stamper (version number, Fig. 11).

Re claim 6, Lee teaches an injection molded article (plurality of substrates are injected molded) formed by the first stamper (mother stamper) of claim 1 (see para [0032] – [0034]).

Re claim 7, Lee teaches a multi-layer optical disc formed from the injection-molded article (plurality of substrates are injected molded) of claim 6 (see para [0032] – [0034]).

Re claim 8, Kawamura teaches a multi-layer optical disc (see fig. 1), comprising: a first layer which stores a first set of user data and a table of contents (TOC) for the disc (see also col 4 lines 25-55); and a second layer (Data on each layer is recorded in the unit of sectors (00 to 255). Considering that the data of all layers constitutes a single program, it is easy to assign consecutive numbers to sector addresses of a plurality of layers. For example, in the second layer not shown, sector addresses (256 to 511) are used, col 4 line 66 – col 5 line 6) aligned adjacent the first layer which stores a second set of user data and an identifier tag which identifies the second layer as corresponding to the first layer (see col 4 lines 36-43).

Re claim 9, Kawamura discloses the multi-layer optical disc of claim 8 (see fig. 1), wherein the identifier tag comprises at least a portion of the TOC (system identification, see Fig 11).

Re claim 10, Kawamura discloses the multi-layer optical disc of claim 8, wherein the identifier tag comprises a reference value associated with the contents of the disc (version number, Fig. 11).

Re claim 11, Kawamura discloses the multi-layer optical disc of claim 10, wherein the reference value is configured to facilitate identification of a revision level of the second level (version number, Fig. 11).

Re claim 12, Kawamura discloses the multi-layer optical disc of claim 10, wherein the first layer further stores a second reference value associated with the contents of the disc (the first two bytes contain the major version number encoded according to ISO 646, and the last two bytes contain the minor version number, col 6 lines 61-67).

Re claim 13, Kawamura discloses the multi-layer optical disc of claim 8, further comprising a third layer (and in the third layer, sector addresses (512 to 767) are used. Moreover, description of layer numbers is necessary to facilitate selection of a respective layer, col 5 lines 3-6) which stores a third set of user data and a second identifier tag which identifies the third layer as corresponding to the first and second layers (If the first layer L0 contains the TOC of another layer, TOC00 for example, then the TOC0 on its

own layer is recorded in a location nearest to the program area to facilitate identification from the other layer, col 4 lines 39-43).

Re claim 14, Lee teaches the multi-layer optical disc of claim 8, wherein the first and second layers are configured such that, during a readback operation, a light beam from an optical pickup (the system includes a pickup unit 45) impinges upon the first layer to read the first set of data and then passes through the first layer to impinge upon the second layer to read the second set of data (laser beam passing through the beam splitter 44 on a disc 53, see fig 7).

Re claim 15, Lee teaches a stamper (a mother stamper, para [0034] and see fig. 4D) used to form the second layer in accordance with claim 8.

Re claim 16, Kawamura teaches a method comprising: forming a first layer which stores a first set of user data and a table of contents (TOC) for the disc (see also col 4 lines 25-55); and forming a second layer (Data on each layer is recorded in the unit of sectors (00 to 255). Considering that the data of all layers constitutes a single program, it is easy to assign consecutive numbers to sector addresses of a plurality of layers. For example, in the second layer not shown, sector addresses (256 to 511) are used, col 4 line 66 – col 5 line 6) aligned adjacent the first layer which stores a second set of user data and an identifier tag which identifies the second layer as corresponding to the first layer (see col 4 lines 36-43).

Re claim 17, Kawamura further discloses the method of claim 16; further comprising attaching the second layer to the first layer (it is easy to assign consecutive numbers to sector addresses of a plurality of layers. For example, in the second layer not shown, sector addresses (256 to 511) are used, col 4 line 66 – col 5 line 6).

Re claim 18, Kawamura discloses the method of claim 16, further comprising forming a third layer (and in the third layer, sector addresses (512 to 767) for the disc configured to be aligned adjacent the second layer which stores a third set of user data and a second identifier tag (Data on each layer is recorded in the unit of sectors (00 to 255). Considering that the data of all layers constitutes a single program, it is easy to assign consecutive numbers to sector addresses of a plurality of layers. For example, in the second layer not shown, sector addresses (256 to 511) are used, col 4 line 66 – col 5 line 6) which identifies the third layer as corresponding to the first and second layers.

Re claim 19, Kawamura teaches about using of identifier tags to test the second layer apart from the first layer (If the first layer L0 contains the TOC of another layer, TOC00 for example, then the TOC0 on its own layer is recorded in a location nearest to the program area to facilitate identification from the other layer, col 4 lines 39-43).

Re claim 20, Kawamura teaches the method of claim 16, further comprising using the identifier tag to identify a revision level of the second set of user data (version number, Fig. 11).

Re claim 21, Lee teaches the apparatus of claim 1 further including said second stamper, wherein the first and second stampers are further configured to be used to form



the respective first and second layers of the disc in a layer fabrication process (see para [0032] – [0037]).

Re claim 23, Kawamura teaches the multi-layer optical disc of claim 8, wherein the first and second layers are each embedded within the optical disc and separated by an intermediary layer of epoxy (The invention is a multi-layered disk in which a plurality of recording layers are provided in the thickness direction of the disk, col 2 lines 60-65).

Re claim 24, Kawamura teaches the multi-layer optical disc of claim 8, wherein the second layer does not store a TOC for the disc (The TOC area on the uppermost layer is provided in a location contiguous to the data area on the uppermost layer, col 1 lines 66-67).

Re claim 25, Kawamura teaches the multi-layer optical disc of claim 8, wherein the first set of data comprises a first program area, and the second set of data comprises a second program area (According to the invention, there is provided a disk-shaped data recording medium, comprising: at least a first and a second recording layers, col 1 lines 42-45).

Re claim 26, Kawamura teaches the multi-layer optical disc of claim 8, wherein the disc is configured such that, the first and second layers are sequentially read to recover the contents of the disc (the sequence of the layer numbers coincides with the physical sequence of the layers, col 5 lines 20-24).

Re claim 27, Kawamura teaches the method of claim 16, further comprising a step of sequentially reading the first portion and the second portion of the contents of the disc while continuously rotating the disc (the sequence of the layer numbers coincides with the physical sequence of the layers, col 5 lines 20-24).

Re claim 28, Lee teaches an apparatus comprising: a first stamper (a father stamper, para [0033] and see fig. 4C) configured to form pits and lands in a first layer of a multi-layer optical disc; and a second stamper configured to form pits and lands in a second layer of the disc (land areas and pit areas protrude, [0032] to [0037]) but Lee fails to teach that the second layer comprising an identifier tag which identifies the second stamper as corresponding to the first stamper, the identifier tag comprising a reference value associated with the contents of the disc. However, Kawamura teaches TOC that contains important data defining the disk. For example, if both conventional single-layered disks and multi-layered disks are acceptable as standard disks, then the TOC00 contains ID for distinguishing whether a disk is single-layered or multi-layered (see col 4 lines 44-54).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the apparatus of Lee to make identifier tags inside the TOC on lands and pits of multiple layer discs. The modification would have been obvious because of the benefit of facilitating identification from multiple layers as taught by Kawamura (see col 4 lines 36-43).

Re claim 29, Kawamura teaches the apparatus of claim 28, wherein the pits and lands in the first layer of the disc define data including a table of contents (TOC) for said disc, and wherein the identifier tag further comprises at least a portion of the TOC (see Fig. 11).

Re claim 30, Lee teaches an injection molded article formed by the second stamper of claim 28 (the plurality of mother stampers 35 are stamped using the father stampers 33 in the present invention, and a plurality of substrates 40 are injection-molded using the mother stampers, para [0034]).

Re claim 31, Lee teaches a multi-layer optical disc formed from the injection molded article of claim 30 (the substrate 40 is molded using the mother stamper 35. Here, supposing that the depth of grooves 3 or groove wobbles 8 formed on the substrate 40 is denoted by  $d_1$  and the depth of pits 18 is denoted by  $d_2$  from the incident direction of the reproduction beam, the disc manufactured para [0036]).

### **Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENOK G. HEYI whose telephone number is (571)270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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August 28, 2008

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